

**Program Director Position, Network for Earthquake Engineering Simulation
Project Manager, in the Division of Civil and Mechanical Systems (CMS)
In the Directorate for Engineering at NSF**

Dear Colleague:

The Directorate for Engineering (ENG) announces a nationwide search to fill a Program Director position at the National Science Foundation (NSF) in the Division of Civil and Mechanical Systems. This Program Director position is for the Project Manager for the Network for Earthquake Engineering Simulation (NEES) Program.

The National Science Foundation (NSF) (<http://www.nsf.gov>) is an independent U.S. government agency responsible for promoting science and engineering through programs that invest over \$3.7 billion per year in almost 20,000 research and education projects. The National Science Foundation Act of 1950 established the mission of NSF to promote the progress of science; to advance the national health, prosperity, and welfare; and to secure the national defense.

I am the Director of the CMS Division, and the Division includes 12 Program Directors who manage a total annual budget of approximately \$50 million. The organization of the CMS Division is described at <http://www.eng.nsf.gov/cms/>. The CMS Division enables knowledge creation and intellectual growth in construction, geotechnical and geo-environmental engineering, structures, dynamics and control, mechanics, materials, tribology, and reduction of risks induced by earthquakes and other natural and technological hazards. The Division encourages cross-disciplinary research at the intersections and beyond the boundaries of traditional disciplines to promote discoveries and capitalize on emerging fields of science and engineering including nanotechnology and information technology. The Division is interested in identifying outstanding candidates to manage programs in all disciplines of CMS, but this letter encourages expressions of interest from people with expertise in project management to support the development of the NEES program.

NSF Program Directors bear the primary responsibility for carrying out the Agency's overall mission: to support innovative and merit-reviewed activities in research and education that are fundamental to the nation's capacity to perform. To discharge this responsibility well requires not only domain knowledge in the appropriate disciplines, but also a commitment to high standards, a considerable breadth of interest and receptivity to new ideas, a strong sense of fairness, and a high degree personal integrity. The NSF environment is very demanding and exciting, and a successful Program Director must be a team player, able to integrate, innovate, and interpret new ideas.

The NEES Program is administered by the Directorate for Engineering through the Division of Civil and Mechanical Systems. The NEES Program will be coordinated by the NEES Program Director through the NEES Management and Oversight Board (MOB). The NEES Project Manager will work directly with the NEES Program Director and will be an important member of the NEES MOB. The NEES MOB also includes Program Officers from the Division of Civil and Mechanical Systems, Directorate for

Engineering, Division of Grants and Agreements, and other NSF divisions, and as appropriate, experts from other federal agencies and contractors.

The NEES Program will revolutionize the environment for earthquake engineering research, bringing focus on collaborative and integrated physical testing, theory, computation, databases, and model-based simulation to improve the seismic design and performance of U.S. civil and mechanical systems. NEES will provide a networked, national resource of geographically distributed, shared-use, next-generation earthquake engineering research equipment installations, with teleobservation and teleoperation capabilities. Earthquake engineering research equipment to be acquired or upgraded under the NEES Program includes shake tables, centrifuges, tsunami/wave tanks, large-scale laboratory experimentation stations, and field experimentation and monitoring installations. NEES equipment will be located at U.S. academic institutions and will be networked into a collaboratory through the development of a high performance network, by a NEES System Integration awardee, that will enable teleobservation and teleoperation and provide a curated repository for experimental and other data and computational resources.

Through the NEES Program, NSF expects to fund up to 25-30 earthquake engineering equipment sites as grants and cooperative agreements. Total funding for the NEES project, including experimental equipment, the NEES network, and a NEES Consortium, is \$81.9 million over the period FY 2000-2004. The NEES equipment sites and network are expected to be operational by September 30, 2004 and will be operated by the NEES Consortium as a collaboratory through September 30, 2014. Further information on the NEES Program is available at <http://www.eng.nsf.gov/nees>.

The NEES Project Manager will provide NSF-level project management for all NEES equipment awards. This would include the following tasks:

- Select members and coordinate activities of a team of experts assembled to review recommended NEES equipment proposals for information completeness and to evaluate constructability.
- Provide technical input for preparation of NEES equipment award documents.
- Establish appropriate reporting requirements for the NEES equipment awardees, review submitted reports, and make recommendations for changes in grants and cooperative agreements to the NEES Program Management and Oversight Board.
- Serve as secretary of the NEES Program Management and Oversight Board.
- Coordinate for NSF the overall NEES equipment award project schedule.
- Monitor the progress by NEES equipment awardees toward individual project milestones, including costs, design, acquisition, construction, installation, and commissioning.
- Develop and implement NSF-level quality assurance procedures for the equipment awards, including annual site visits to NEES equipment awardees as needed.
- Coordinate equipment specifications and installations between the NEES equipment awardees and the NEES System Integration awardee.

- Develop and maintain the NEES Requirements Document that describes in detail all equipment and network components of the NEES Program.

The following professional/technical qualifications are essential and desirable for the NEES Project Manager:

Essential

1. Minimum of a Ph.D. or equivalent experience in engineering or appropriate related field plus six or more years of successful research, research administration, and/or managerial experience pertinent to the position.
2. Minimum of ten years of experience as a project manager for construction projects, with increasingly complex projects over the ten-year period.
3. Demonstrated proficiency in hands-on use of commercially available project management software.
4. Demonstrated knowledge and experience with quality assurance procedures for project management and construction.
5. Demonstrated ability to work in a project team environment that requires interface and coordination across engineering and science disciplines and academic, government, and private sectors.
6. Demonstrated oral and written communication skills, including hands-on proficiency of MS Office software.
7. Ability to serve a minimum of two years at NSF as the NEES Project Manager.

The NEES Project Manager must complement technical excellence with management and leadership skills, including skills for mentoring, public speaking skills, project management experience, financial management skills, and the ability to make timely decisions.

Desirable

1. Demonstrated project management or construction management experience with major scientific and engineering research equipment or facilities at U.S. academic institutions, including installation of new equipment, upgrades of existing equipment, and facilities construction and remodeling.
2. Demonstrated familiarity with earthquake engineering research equipment.
3. Demonstrated experience with commissioning of major scientific and engineering research equipment.

4. Demonstrated knowledge of equipment and installation procedures for local area computing networks and connectivity to high performance computing networks.
5. Demonstrated experience with cooperative agreement and grant administration, fiscal management, and budget preparation.
6. Professional engineering registration.

The NEES Project Manager appointment will be as a reimbursable detail from another Federal agency or by other temporary mechanisms. The specific arrangement will be decided on an individual basis. NSF is particularly interested in attracting qualified women and under-represented minority candidates to this position.

NSF is an equal opportunity employer committed to employing a highly qualified staff that reflects the diversity of our nation.

Applications for the NEES Project Manager position should be directed to:

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General inquiries about the NEES Program or about the NEES Project Manager position should be directed to me through the contacts listed below.

Formal consideration of applications for the NEES Project Manager will commence immediately and will continue until successful candidates have been identified.

Sincerely,

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